



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Implement the
Commission's Procurement Incentive Framework and to
Examine the Integration of Greenhouse Gas Emissions
Standards into Procurement Policies.

Rulemaking 06-04-009

(Filed April 13, 2006)

**COMMENTS OF THE
CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION
AND THE
SOLAR RATING AND CERTIFICATION CORPORATION
ON ADMINISTRATIVE LAW JUDGES' RULING REQUESTING COMMENTS
ON TYPE AND POINT OF REGULATION ISSUES
FOR THE NATURAL GAS SECTOR**

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December 17, 2007

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Pursuant to Administrative Law Judges (ALJs) TerKeurst and Lakritz's Ruling Requesting Comments on the above referenced proceeding dated November 28, 2007, in **Docket 07-OIIP-01**, the California Solar Energy Industries Association ("CALSEIA") and the Solar Rating & Certification Corporation ("SRCC") hereby submit the following comments regarding the use of solar thermal systems to reduce greenhouse gas (GHG) emissions in the natural gas sector.

INTRODUCTION

CALSEIA is a non-profit trade association founded in 1977 to increase the use of solar energy in California. CALSEIA represents approximately 200 solar companies doing business

in California including installation companies, manufacturers, distributors, wholesalers, consultants, engineers, designers, and utilities. These companies sell and install in the residential, commercial, agricultural, government, and other markets for both new construction and existing sites.

SRCC is a non-profit corporation founded in 1980 which rates and certifies solar thermal collectors and systems. Currently, approximately 160 individual solar collectors, and nearly 650 solar system configurations are certified by SRCC. SRCC certification is a requirement for the federal Investment Tax Credit established through the Energy Policy Act of 2005, a requirement for the San Diego Solar Water Heating Pilot Program administered by the California Center for Sustainable Energy, and is required for the statewide solar water heating program authorized by AB 1470 and signed into law by Governor Schwarzenegger in October.

These two organizations have extensive expertise in supplying and certifying solar products that reduce natural gas use, commonly referred to as solar thermal systems. Our comments focus exclusively on Solar Water Heating (SWH).

CALSEIA and SRCC do not address all of the questions set forth in the ruling, but submit these comments in the interest of helping the CPUC formulate a recommendation to the California Air Resources Board (CARB) on implementing Assembly Bill 32 to achieve real greenhouse gas emissions reductions in California.

The following summarizes CALSEIA and SRCC comments:

1. Market-based systems should be included in the final program design for existing residential and commercial natural gas customers. However, regulatory systems would be appropriate for new natural gas customers and for customers who are replacing obsolete equipment.
2. Residential and Commercial solar water heating (SWH) technologies should be included in GHG mitigation strategies for California.

3. GHG mitigation strategies should include both regulatory and incentive mechanisms to achieve GHG reduction goals and should take into account various regulatory and incentive mechanisms currently in place.
4. The State Agencies (the Public Utilities Commission, Air Resources Board, and the Energy Commission) should collaborate to implement GHG reduction strategies through their existing statutory authorities.

DISCUSSION

Market-based systems should be included in the final program design because they would be less disruptive to customers who own existing natural gas-fired water heaters.

However, regulatory systems would be appropriate for new natural gas customers and for customers who are replacing obsolete equipment. Over 10 million residential customers in California use natural gas for water heating. CALSEIA believes it would be less disruptive to those customers if a market-based system, such as incentives, were offered to induce GHG emission reductions through the purchase of SWH systems. However, the Energy Commission, through its existing authority to regulate residential and commercial new construction and renovations, could mandate SWH through those regulations.

Residential and Commercial SWH technologies should be included in GHG mitigation strategies for California. In a March 2007 Research Report,¹ the National Renewable Energy Laboratories (NREL) determine that the technical potential for carbon dioxide emissions reduction in California through the use of solar water heating (SWH) is 5.9 million metric tons annually.

The California Energy Commission, in its 2007 Integrated Energy Report recognizes the value of SWH to reduce GHG emissions:

¹ Denholm, P., The Technical Potential of Solar Water Heating to Reduce Fossil Fuel Use and Greenhouse Gas Emissions in the United States, National Renewable Energy Laboratory, Research Report Number: TP-640-41157, March 2007 <http://www.nrel.gov/docs/fy07osti/41157.pdf>

“The Energy Commission encourages renewable sources of energy to generate electricity, as well as sources - such as solar for water and space heating - that directly displace natural gas.”²

According to a report issued in 2007 by Environment California,³

“Combining the residential and commercial potential, California could save about 1.2 billion therms of natural gas with solar hot water technology. In 2005, the last year for which data are available, that amount would comprise about 24 percent of residential natural gas usage, or 5.2 percent of all statewide consumption.”

CALSEIA believes that SWH provides an effective opportunity for end-users of natural gas using approaches similar to existing energy efficiency programs as well as a new program recently enacted in California through Assembly Bill 1470, the Solar Water Heating Efficiency Act of 2007. SWH systems rated by the SRCC can reduce residential natural gas consumption between 30 and 75%. Commercial systems would also yield similar results. These market based approaches can achieve significant and measurable results in GHG emission reductions.

Other countries around the world have made the obvious connection between sunlight and heat with sunlight resources significantly less attractive than California. As examples, most of the European Union countries utilize solar thermal technologies in quantities far exceeding those of the US and have 13.5 GWth in solar thermal equipment currently in operation⁴ through programs

² California Energy Commission, 2007 Integrated Energy Policy Report, pg.238

³ Environment California, Solar Water heating: how California can reduce its dependence on Natural Gas, 2007, page 14

⁴ European Solar Thermal Industry Federation, Solar Thermal Markets in Europe, page 2

in place in Germany, Italy, Spain, Austria, and France - a few of the over 20 countries with solar thermal programs. In a number of locations, SWH is required on new construction.⁵

The *California Statewide Residential Sector Energy Efficiency Potential Study*⁶ prepared for PG&E by Kema-Xenergy in April 2003 found that residential gas energy savings potential for solar water heating was the largest of all the measures studied, and exceeded the savings potential of the next four largest measures combined. We note that the economics of solar water heating should be evaluated differently than energy efficiency measures since generation, in combination with efficiency, can achieve natural gas consumption reductions unachievable through efficiency alone.

Specific to Question 5: For each of the following sources of GHG emissions, state whether the sources described should be subject to an enforceable cap and, if so, whether the cap should be covered by a cap-and-trade approach or only by programmatic measures. For sources you recommend covering programmatically, what specific programmatic actions should be taken?

GHG mitigation strategies should include both regulatory and incentive mechanisms to achieve GHG reduction goals. Specific to residential customers, there are currently over 10 million residential natural gas customers, the majority of whom use natural gas for water heating as well as space conditioning and cooking. For water heating alone, each of these customers use an average of approximately 240 therms of natural gas per year.⁷ These existing natural gas customers should be included in a programmatic approach to reducing GHG emissions, specifically through incentives and educational programs administered by the retail natural gas supplier. The retail natural gas supplier, however, should be given measurable goals for achieving results to ensure that the programs are effectively implemented in a timely manner.

⁵ Examples include Spain, Israel, parts of Australia, and most recently Germany. For more information: http://www.estif.org/fileadmin/downloads/Solar_Thermal_Markets_in_Europe_2006.pdf

⁶ http://www.calmac.org/publications/Res_EE_Potential_Study_V1.pdf Page 7-5, Figure 7-5

⁷

http://www.pge.com/docs/pdfs/rebates/program_evaluation/advisory_group/PAGetteUpdate_Water%20Heating.pdf
Historical Gas UEC Values for Space and Water Heating in Southern California, Slide 7

Specific to Question 7. As the Public Utilities Commission does not currently have authority to oversee all potential GHG-reducing programs for all kinds of natural gas entities in California, which agency(ies) should regulate in such areas? For example, should ARB require that publicly owned utilities meet energy efficiency targets? Would additional legislation need to be enacted?

The agencies should work together through a collaborative process similar to the Energy Action Plan. The Public Utilities Commission has authority to regulate investor-owned utilities. The ARB should partner with the Public Utilities Commission to achieve its GHG-reducing programs. The Public Utilities Commission does not have the authority to regulate the publicly owned utilities, therefore CALSEIA and SRCC recommend the ARB administer programs for those entities. With a few exceptions (Palo Alto and Long Beach) most publicly owned utilities are not retail providers of natural gas. The Energy Commission has authority to administer energy efficiency standards for appliances and new construction, therefore, the Energy Commission should administer GHG emission reducing programs for new residential and commercial buildings particularly in light of the number of new single family homes built each year in California (as many as 130,000 per year), the vast majority of which will incorporate gas-fired water heaters, increasing the inventory by approximately 3,000 pounds of CO₂ per water heater.

Specific to Question 20. Detailed proposal.

The ARB should adopt a regulation that requires the publicly owned utilities to implement programs, approved by the Public Utilities Commission, to provide incentives to reduce residential and commercial natural gas use for water heating. The Public Utilities Commission should establish rules for the investor owned utilities to offer incentives and education programs to increase the use of SWH in California. The Public Utilities Commission should establish goals and timelines for investor owned utilities to establish and implement such

programs. Incentives, such as rebates, should incorporate the funds authorized through Assembly Bill 1470, enacted in 2007, as well as funds authorized through energy efficiency programs. The Public Utilities Commission should evaluate SWH in a manner that takes into account the generation and efficiency attributes of SWH as well as the GHG emission reduction benefits.

The ARB should adopt a memorandum of agreement between the ARB and the Energy Commission to require the Energy Commission's new construction programs to incorporate GHG emission programs, specifically, the State's Building Efficiency Programs. The Energy Commission should modify its energy efficiency standards for new residential and commercial buildings to require solar water heating.

This approach is advantageous because it does not require legislation and it can be measured and quantified at minimal costs to the utilities and state agencies. This approach promotes energy efficiency, renewable energy, and GHG-emission reductions in a single program. The cost of the program will be modest because utilities already administer energy efficiency programs and renewable energy rebate programs. The incentive levels can be set to offset part of the cost of the SWH system to achieve its goals. Similar programs are already in effect in other parts of the country, and some utilities currently administer incentive programs for SWH. If the program is designed to use the performance ratings produced through SRCC, as most all other programs do, it will be simple to verify performance and quantify results for utilities and state agencies.

II. CONCLUSION

CALSEIA and SRCC appreciate the opportunity to provide reply comments addressing issues related to the type and point of regulation to be used to reduce GHG emissions in the natural gas sector.

Dated: December 17, 2007

Respectfully submitted,
By



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CERTIFICATE OF SERVICE

I, Sue Kateley, certify that I have on this 17th day of December 2007
caused a copy of the foregoing

**COMMENTS OF THE CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION
AND THE SOLAR RATING CERTIFICATION CORPORATION ON TYPE AND
POINT
REGULATION ISSUES**

to be served on all known parties to R.06-04-009 listed on the most recently updated service list
available on the California Public Utilities Commission website, via email to those listed with
email and via U.S. mail to those without email service.

I declare under penalty of perjury that the foregoing is true and correct.
Executed this 17th day of December 2007 at San Francisco, California.

/s/Sue Kateley_____

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